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Rejection Under 35 U.S.C. 102

Claims 1, 3, 6, 7, 9, 10, 14-19, 21, 22, 25, 27-35, 37 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent No. 6,804,307 issued to Popovic on October 12, 2004.

This ground of rejection is respectfully traversed.

Each of applicants' rejected independent claims requires a) that the data stream be divided into L substreams, $L > 2$, and b) that there be four transmit elements to transmit the developed transmit sequences. Note that $L > 2$ means that L can have values only of 3 or greater.

This is not taught or suggested by Popovic.

Instead, if there are four transmit elements in Popovic, i.e., $n=4$, then there can only be 2 substreams, i.e., $m=2$, which in the language and representation employed by applicants claim is the equivalent of saying $L=2$. (See Popovic, column 5, lines 15-27.) This is further seen from the fact that the rate R, which is the number of substreams divided by the number of symbol periods, is actually always less than 1 in Popovic et al., while applicants' invention actually achieves a rate of $R=1$. (See Popovic, column 2, lines 4-21, column 6, lines 6-38, and column 10, lines 51-59.) Additionally, Popovic wants strict orthogonality, and that can only be achieved with at most two substreams. Note too that the source data of Popovic cited by the Office Action, X_1 and X_2 represent two substreams.

Since all of the dependent claims that depend from the currently amended independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over Popovic. Therefore, applicants' claims 1, 3, 6, 7, 9, 10, 14-19, 21, 22, 25, 27-35, 37 and 41 are allowable over Popovic et al. under 35 U.S.C. 102.

Rejection Under 35 U.S.C. 103(a)

Claims 26 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popovic. Claims 36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being

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unpatentable over Popovic in view of United States Patent No. 6,775,620 issued to Dabak et al. on August 10, 2004.

Each of these grounds of rejection applies only to dependent claims, and each is predicated on the validity of the rejection under 35 U.S.C. 102 given Popovic. Since the rejection under 35 U.S.C. 102 given Popovic has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that Dabak et al. supplies that which is missing from Popovic to render the independent claims anticipated, these grounds of rejection cannot be maintained.

Therefore, applicants' claims 26, 36, 38, 39, and 40 are allowable under 35 U.S.C. 103(a).

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Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

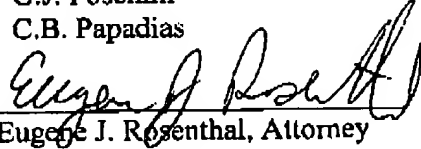
If, however, the Examiner still believes that there are unresolved issues, he is invited to call applicant's attorney so that arrangements may be made to discuss and resolve any such issues.

In the event that an extension of time is required for this amendment to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for, and the Commissioner is authorized to charge the appropriate cost of such petition to the **Lucent Technologies Deposit Account No. 12-2325**.

Respectfully,

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By


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